

### **REMARKS**

Claims 1-22 are pending in the application. Claims 1-22 are rejected.

Claims 1-22 have been amended for clarity to indicate that the invention is directed towards an emulsifier.

Claim 1 has further been amended to state that the emulsifier provides stability to a cosmetic or personal care composition when stored for at least 1 month at 45°C. Support for this amendment is found at p. 13, lines 15-19 of the Specification.

No new matter is introduced with these amendments.

### **Information Disclosure Statement**

The Examiner notes that the information disclosure statements filed on 18 June 2004 and 17 November 2005 are in compliance, but that some of the references were not considered because English translations were not provided and their relevance was not indicated. Two references were not considered – EP 1 389 459 A ('Use of hydroxypropyl starch phosphate in cosmetic compositions containing active agents') and JP 09-278644. The relevance of both references was stated in the IDS in that both were cited in the search report of the corresponding European patent application.

No English equivalent of the '459 publication was available. Using the European Patent Office machine translator, the abstract of the '459 publication is roughly as follows –

The present invention concerns the use of hydroxypropyl starch phosphate (STRUCTURE ZEA) as a hydrocolloid, by either in combination with other hydrocolloids for use with active agents, in cosmetic and other dermatological preparations containing such.

With respect to JP 09-278644, a copy of the abstract obtained from the Japanese Patent Office Patent Abstracts is enclosed herewith.

It is believed that these English translations satisfy the English requirement. Consideration is respectfully requested.

### **Objection to the Specification**

1. The Examiner states that the title of the invention is not descriptive in that it is not clearly indicative of the invention to which the claims are directed. 37 C.F.R. 1.72 states that the title of

the invention "must be as short as possible". Claims 1-22 have been amended for clarity to indicate that the claimed invention is directed towards an emulsifier, which is the title of the present invention. It is believed that this amendment overcomes the Examiner's objection to the title. Withdrawal, therefore, is respectfully requested.

2. The Examiner objects to the Abstract in that it is identical to the 'Summary of the Invention'. The Abstract has been replaced with a new Abstract based on claim 1 and 17 of the present application. Accordingly, no new matter is introduced. It is believed that this amendment overcomes the Examiner's objection to the Abstract. Withdrawal, therefore, is respectfully requested.

3. Applicants take note of the Examiner's remarks concerning the arrangement of the Specification. While the suggestion is appreciated, it is noted that Rule 77(b) only requires that the specification include the sections noted therein, and not the section titles (see, MPEP 601, "Guidelines for Drafting a Non-Provisional Patent Application under 35 U.S.C. 111(a)", which indicates that the guidelines are merely suggestive and not mandatory). All appropriate sections are included in the order specified by Rule 77(b). Regarding the 'Background of the Invention', as the application was filed without this section, Applicants are concerned that it would constitute new matter to introduce this section now. Therefore, no background is added.

#### **Reply to the Rejection of Claims 21 and 22 under 35 U.S.C. § 112, 2<sup>nd</sup> Paragraph**

The Examiner has rejected claims 21 and 22 as being indefinite. Specifically, the Examiner notes that claims 21 and 22 miss the steps of indicating what the composition is added to or how it is added. Claims 21 and 22 have been amended for clarity to state that the emulsifier is added to the cosmetic or personal care emulsion. It is believed that these amendments overcome the Examiner's rejection of claims 21 and 22 as being indefinite. Withdrawal, therefore, of the rejection of claims 21 and 22 as being indefinite under 35 U.S.C. § 112, 2<sup>nd</sup> paragraph is respectfully requested.

#### **Reply to the Rejection of Claims 1-20 under 35 U.S.C. § 103(a)**

The Examiner has rejected claims 1-20 as being unpatentable over U.S. Patent No. 6,248,338 to Müller *et al.* ("Müller") in view of U.S. Patent No. 4,977,252 to Chui *et al.*

("Chui"). For the following reasons, applicants respectfully traverse the Examiner's rejection of claims 1-20 under 35 U.S.C. § 103(a).

Müller discloses a composition for cleaning or caring for the skin, teeth or hair or for cleaning smooth surfaces (Abstract). The composition includes an aqueous phase containing a pregelatinized, crosslinked starch selected from a C<sub>2</sub>-C<sub>5</sub> hydroxyalkyl starch and a C<sub>2</sub>-C<sub>18</sub> acyl starch (*Id.*). Hydroxypropyl di-starch phosphate or di-starch C<sub>4</sub>-C<sub>18</sub> alkanoate or alkenoate is preferred (*Id.*). The starch functions as a (1) stability improver, (2) viscosity regulator (3) co-emulsifier, (4) skin feel improving agent, and (5) agent for improving hairdressing characteristics (*Id.*).

Chiu is directed towards modified starches useful for emulsifying industrial products, particularly foods and beverages containing flavor oils (Abstract). The starches are prepared by enzymatic degradation of the 1,4- $\alpha$ -D-glucosidic linkages from the non-reducing ends of a starch molecule, preferably employing  $\beta$ -amylase (*Id.*).

Claim 1 has been amended to state that the emulsifier provides stability to a cosmetic or personal care composition when stored for at least 1 month at an elevated temperature of 45°C. While Müller states that its starch has (co)emulsifying properties, the Examples only show that stable emulsions can be achieved in presence of another non-natural (synthetic) emulsifier. Nowhere does Müller show its starch to have emulsifying properties by itself. Chiu illustrates that its modified starch provides emulsification of beverages over 6 months under cool storage conditions (5-7°C, see Examples of Chiu). Such stability is not sufficient for cosmetic or personal care applications, where the product must exhibit stability when tested for at least 1 month at 45°C (equivalent to shelf storage of at least eight (8) months at room temperature). Further, Chiu makes absolutely no reference to storage stability at elevated temperatures.

Accordingly, as Müller fails to show its starch to have emulsifying properties by itself, and as Chiu fails to prove that its starch is storage stable at elevated temperatures, one skilled in the art would glean no suggestion from the teachings of these two references that their combination would provide an emulsifier having synergistically enhanced stability. More particularly, nowhere does either reference, alone or in combination, suggest that their starches can be used in cosmetic or personal care compositions that are substantially surfactant free, and their starch is the only emulsifier present in the formulation.

For at least these reasons, Müller in view of Chiu does not render the presently claimed invention obvious. Withdrawal, therefore, of the rejection of claims 1-20 under 35 U.S.C. § 103(a) is respectfully requested.

It is believed that the above remarks and amendments place the application in condition for allowance, and such allowance is respectfully requested.

Respectfully submitted,

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## PATENT ABSTRACTS OF JAPAN

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## (54) COSMETIC OF O/W-TYPE EMULSION

## (57)Abstract:

PROBLEM TO BE SOLVED: To prepare a cosmetic of O/W-type emulsion excellent in salt resistance, light resistance and emulsion stability, good in adhesive properties to the skin and having good feeling in use which is free from stickiness although it has moist feeling.

SOLUTION: This cosmetic is prepared by using a metal salt of an alkenylsuccinic acid starch, a modified starch, as a thickening agent. As the metal salt of the alkenylsuccinic acid starch, an octenylsuccinic acid starch aluminum is especially preferable. The modified starch is dispersed in water to be wetted by using a hydrophilic surfactant, a polyhydric alcohol, etc., and thickened by heating preferably at  $\geq 70^{\circ}\text{C}$ . An adequate compounding ratio is about 0.1-10.0wt.%, however, the modified starch can exert dispersion stabilization effect on powder when it is compounded at a ratio of  $\geq 0.5\text{wt.}\%$ .